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# **Volkswagen Company's Corporate Governance and Liquidity Risk**

Jamalludin Helmi, Faten Fatihah

University Utara Malaysia

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## **ABSTRACT**

The objectives of the article are three-folds, namely, to investigate, (i) the influence of the selected internal factors to the Return on Asset (ROA), ii) the influence of the selected external factors to the Return on Asset (ROA), and (iii) the influence of the both factors (external and internal) factors to the Return on Asset (ROA). This research was design as a quantitative, using secondary data in nature by compiling the financial across five years (2014 to 2018) of a specific automobile company. i.e., Volkswagen. Even though the focus was given to three (3) Statements, namely the Profit and Loss Account, the Balance Sheet and The Cash Flow Statement but other related statement such as notes of accounts was also need to be investigated. Other than that, other secondary sources as Text Books, Reference Books, Journals, Articles, Magazines and from the Internet. The data were summarized using Microsoft Excel before analyzed using SPSS application. The findings were as follows: i) The dependent variable was explained 100% by the internal factors, ii) For the external factors, 74.5% of the the selected variables (which consisted of STDV, Exchange rate and Inflation) were able to explain the ROA, and iii) both type of factors (internal and external) 74.0% of the variance in the dependent variable is explained by the combination of internal and external factors. Furthermore, operation margin has a great effect to the dependent variables. This study, however is limited only to the automobile company. This study also limited to the data used, as it only includes five years performance and financial statements of Volkswagen.

**Keyword: Corporate Governance, Liquidity Risk, Return on Asset**

## **CHAPTER 1: INTRODUCTION**

### **1.1 Overview**

The Volkswagen Group (Volkswagen AG), is the major German automobile manufacturer. It was founded by the German Government in 1937 to produce a low priced “people’s car.” With the headquarters located in Wolfsburg, Germany, the company was operated by the German Labour Front (Deutsche Arbeitsfront). The Volkswagen’s military involvement made its factory a target for Allied bombers, and by the end of the war the factory was in ruins. It was rebuilt under British supervision, and mass production of the Volkswagen began in 1946. Control of the company was transferred in 1949 to the West German government and the state of Lower Saxony. By that time, more than half of the passenger cars produced in the country were produced by the Volkswagen.

Volkswagen expanded rapidly in the 1950s by introducing the Van in 1950 and followed by the Karmann Ghia coupe in 1955. The sales for exported model were very strong due to the small size, unique appearance as well as historical connection to Nazi Germany. In the USA for example, the car began to gain acceptance in 1955 due to the hiring of The American advertising agency Doyle Dane Bernbach and the result was a landmark advertising campaign was very successful. As a result, the Beetle appeared to be the most popular Volkswagen model in the USA for many years.

### **1.2 Research Objectives**

- i) To investigate the effect of the internal factor influence towards Return on Asset (ROA)
- ii) To investigate the effect of the external factors influence towards Return on Asset (ROA)
- iii) To investigate the effect of both (internal and external) factors influence towards Return on Asset (ROA)

### **1.3 Research Questions**

- i) Does any relationship between the internal factors towards Return on Asset (ROA)?
- ii) Does any relationship between the external factors towards Return on Asset (ROA)?
- iii) Does any relationship between both internal and external factors towards Return on Asset (ROA)?

### **1.4 Scope of Study**

The research sample is information about Germany's automotive industry, specifically Volkswagen. The accounting and financial ratios are based on the 2014-2018 Volkswagen annual reports.

### **1.5 Organization of The Study**

This research is made up of five main chapters. First chapter is this study's introduction, which includes summary, research objectives, research questions, study context, and study organization. In the second chapter, we discuss the independent and dependent variables literature review, which is internal and external factors that affect the liquidity ratio of the company. Chapter 3 measures the calculation of variables, methodology of research and analysis of results. We address the conclusions and results of this analysis in chapter four. There is a description and findings of this analysis in the final chapter.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 Corporate Governance**

Corporate governance is the complex process among organizational, legal, economic, motivational, and social tools. The combination of several parties provides the unique working environment that allows to minimize costs by reducing the gap among parties involved, especially between managers' and owners' interests. As such, the well-organized corporate governance is extended beyond the "managers' and owners' goals", but also include the interests of all parties such as investors, suppliers, consumers, workers, local community and government (Mostepaniuk, 2017).

### **2.2 CG and the Company performance**

A study done by (Balagobei, 2018) investigated the impact of CG on firm performance of listed companies in Sri Lanka. The sample of Fifty listed companies were selected using proportion random sampling. The secondary data were collected from the annual report of listed companies in Sri Lanka from 2010 to 2015. She (Balagobei, 2018) considered the CG is measured by board size, board independence, CEO duality, director's ownership and audit committee as the independent variable while firm performance which is measured by ROA and Tobin's Q as a dependent variable. She used the multiple regressions and Pearson's correlation analyses to conclude that the board size and audit committee have significant impact on ROA and board size has significant impact on Tobin's Q, whereas board independence, CEO duality and director's ownership have insignificant impact on both firm performance measures such as ROA and Tobin's Q. Other than that, the board size and audit committee have negative relationship with firm performance. This study suggests that small boards are associated with higher firm performance, possibly through closely monitored managements.

### **2.3 Types of risks and industrial context**

Risk can be defined as the portion of return resulting from surprises of any investment. If we always receive exactly what we expect, then the investment is perfectly predictable and therefore is a risk free (Pearl-Kumah, Sare, & Bernard, 2014). There are four types of risks, namely, (i) Credit Risk, (ii) Operational risks, (iii) Current risk and (i) Market risk. The discussion that follows will discuss every types of risks and focus on the specific industrial context – automobile.

### 2.3.1 Credit risk

Credit Risk is the risk that arises when one fails to fulfill their obligations towards their counterparties. Credit risk can be classified into Sovereign Risk and Settlement Risk. Sovereign risk usually arises due to difficult foreign exchange policies. Settlement risk, on the other hand, arises when one party makes the payment while the other party fails to fulfill the obligations.

Overall, there are an existing of several variables that significantly influence the financial performance. For example, research done by (Gadzo, Kportorgbi, & Gatsi, 2019) indicated that asset quality, bank leverage, cost to income ratio and liquidity significantly bring a positive influence toward credit risk, operational risk as well as the financial performance of the universal banks. They did a research on all the 24 universal banks in Ghana without missing variables and using the PLSSEM, the results showed that credit risk and operational risks influences financial performance negatively.

Another study done by (Mokatsanyane, 2016) noted that political risk and credit risk are the two oldest and most perilous risks faced by banks globally, as they influence banks' capital, investment and profitability structure. He employed quantitative research to analyse the relationship between political risk, credit risk and profitability in the South African banking. The secondary data of four large banks, namely Absa, FirstRand, Nedbank and Standard Bank from 2001 to 2015 was collected. Data included return on equity (ROE), return on assets (ROA), net interest margin (NIM) and earnings per share (EPS) as the proxies for profitability. Two independent variables, credit risk, denoted by nonperforming loans ratio (NPLR), and political risk denoted by political risk index (PRI) were used in the study. Lastly, bank size; operating expenses; economic activity; gross domestic product; and inflation and interest rate, were used as control variables. The findings revealed that both political and credit risk has a significant relationship with profitability.

(Rani, 2016) analyze and compared the risk of different companies in Indian auto companies focusing on their strengths and weaknesses. They measured the financial performance of major selected automobile companies for the period of 5 years from 2013-2017 by using ratio analysis. The purpose of the study is to evaluate and compare the financial performance of selected three companies to rate their financial performances. The study found that there is the positive strong relationship of liquidity ratio. It evolves the effective inventory management and conversion period leads to higher liquidity power to the companies. Therefore, the study proves that there are some significant changes to meet their liabilities. The Solvency Ratios of selected automobile companies have some fluctuation. This means they face a little risk to meet their long terms obligations.

### 2.3.2 Operational risk

This type of risk arises out of operational failures such as mismanagement or technical failures. Operational risk can be classified into Fraud Risk and Model Risk. Fraud risk arises due to the lack of controls and Model risk arises due to incorrect model application. (Hussaini, Abu Bakar, & Yusuf, 2019), noted that due to the bank fraud and the fall of world-leading business organizations had triggered scholars and professionals to re-examine the link between fraud risk management, and the bank's performance. They reviewed the relationship between fraud risk management, risk culture, and bank performance by suggesting future research agenda in the area. They revealed that fraud risk management has a positive relationship with bank performance. Similarly, evidence has shown that risk culture influence bank's performance. As studies that link fraud risk management, risk culture and bank performance are rare this paper will be pioneering in the relationship; this may in a long way aid in making various business decisions.

(Liu, 2018) analyze the performance and the risk affecting the performance of Honda Company in last five years from 2013 to 2017. This study was carried out to determine the performance and the factors affecting the performance of Honda Motor Company. In order to achieve this goal, this study adopts firm specific factors (credit risk, liquidity risk, operational macroeconomic factors (GDP and inflation rate). He concluded that there is a significant correlation between internal factors and some of the macroeconomic factors to profitability.

(Alam, 2012) investigated the effects of internal and external factor in manufacturing industry towards operational risk. They employed a time series regression analysis of manufacturing industry in Germany from 2012 to 2016. The analysis shows that firm specific factors (average current ratio and average collection period) and macroeconomic factors (the company's beta) influence the operational risk of the company. As such, they suggested that the company to manage their average collection period by managing their account receivable efficiently through establishing clear credit policies and incorporate more corporate governance elements such as accountability, fairness, independence and transparency.

### 2.3.3 Current Risk

Risk is an inherent part of every endeavor mankind seeks to undertake. Often times the higher the risk, the greater the reward. And while some risks are known, others are unknown and surprising. But guidelines and procedural outlines can mitigate risks by establishing better decision making processes. This is called Risk Management.

Risk management is all about mitigating potential hazards, losses, and liabilities. But this has become increasingly difficult in an ever changing and often unpredictable world. There are myriad kinds of risks facing every type of project and organization. And yes, some people and organizations take certain risks purposefully. But other times, unexpected risks rise up and can result in human, property, and financial liability losses.



(Hunter, McCarth, & D'Alessandro, 2017) noted that the issues in trade relations between the United States and Malaysia as its written from the standpoint of a composite American automobile parts manufacturer which is attempting to penetrate the Malaysian automotive market. The article raises questions relating to United States and Malaysian trade policies, optimal entry strategies, and intellectual property issues. As both the U.S. and Malaysia are members of the Asia Pacific Economic Cooperation Pact, economic ties between nations have been strongly encouraged. The safest and most efficient way for Glotz to proceed in attempting to enter the Malaysian market is to form a joint venture with a local entity and to produce its product line solely for use by Malaysian automotive makers— at least initially. As an entry strategy, this will gain the trust of the Malaysian government and will hopefully ensure that legal issues relating to foreign investment in the Malaysian market will be handled in a most expeditious and fair manner. With the currently expanding market in Malaysia and Malaysia's desire to reach high-income status in the near future, the Glotz Corporation should be welcomed into the country, creating jobs, high quality products, and increasing income for the country.

(Aliu, Pavelkova, & Dehning, 2017) aimed to assess the risk level and risk-return tradeoffs for the companies operating in Czech automotive industry. As such, they use a diversification formula and calculation of returns using return-on-equity across the year of 2005 till 2014. The returns and risk calculations were conducted on the portfolio of auto manufacturers, followed by the portfolio of auto suppliers, while the third one was performed for suppliers and manufacturers taken together. Findings showed that the average correlation coefficient tends to decrease when we move from manufacturers to suppliers, while increasing when we join manufacturers and suppliers in one portfolio. The highest diversification benefit has been reached in the portfolio of auto suppliers. The highest risk is manifested for the portfolio of manufacturers, while the lowest – in the portfolio of auto suppliers. Risk level declined when we joined manufacturers and suppliers in comparison with risk of manufacturers alone. However, the lowest risk and the highest risk-return tradeoff were achieved in the portfolio of suppliers.

(Chod, Trichakis, & Tsoukalas, 2019) developed a new theory of supplier diversification based on buyer risk. When suppliers are subject to the risk of buyer default, buyers may take costly action to signal creditworthiness so as to obtain more favorable terms. On the other hand, once signaling costs are sunk, buyers sourcing from a single supplier become vulnerable to future holdup. Although ex ante supply base diversification can be effective at alleviating the holdup problem, we show that it comes at the expense of higher upfront signaling costs. They proved to resolve the ensuing trade-off and show that diversification emerges as the preferred strategy in equilibrium. Our theory can help explain sourcing strategies when risk in a trade relationship originates from the sourcing firm, e.g., SMEs or startups; a setting which has eluded existing theories so far.

### 2.3.4 Market risk

**Market risk** is defined as the risk of losses in on and off-balance-sheet positions arising from movements in market prices. Market risk can be classified as Directional Risk and Non-Directional Risk. Directional risk is caused due to movement in stock price, interest rates and more. Non-Directional risk, on the other hand, can be volatility risks.

(Ekinci, 2016) investigate the effects of credit and market risk, i.e., interest rate and foreign exchange (FX) rate risk, on the bank performance for the Turkish banking sector in a time-varying framework employing the generalized autoregressive conditional heteroscedastic approach for the 18.01.2002-30.10.2015 period by using weekly data. The results suggest two main findings: (i) Credit risk has a negative and FX rate has a positive effect, but interest rate has insignificant effect on banking sector profitability, (ii) credit and market risk have a positive and significant effect on conditional bank stock return volatility.

In another study, (Gathigia Muriithi, 2016) assessed the effect of market risk on financial performance of commercial banks in Kenya. They covered the period between year 2005 and 2014. Market risk was measured by degree of financial leverage, interest rate risk and foreign exchange exposure while financial performance was measured by return on equity. The study used the balance sheets components and financial ratios for 43 registered commercial banks in Kenya. Panel data techniques of random effects, fixed effects estimation and generalized method of moments (GMM) were used to purge time-invariant unobserved firm specific effects and to mitigate potential endogeneity problems. The results showed that the financial leverage, interest rate and foreign exchange exposure have negative and significant relationship with bank profitability. Based on the study findings, it is recommended that commercial banks especially locally owned are required to consider finding ways of mitigating the market risks by use of financial instruments such as financial derivatives and be active in derivatives markets. These may reduce their interest rate risk and foreign currency risk exposure. The commercial banks are also required to monitor the financial leverage so as to reduce the financial risk.

With regards to the automobile industry, (Shanthi.M & Kirubadevi.J, 2018) analyzed the financial aspect of the Force Motors. The Force Motor, formerly Bajaj Tempo, is an Indian manufacturer of three- wheelers, multi-utility and cross country vehicles, light commercial vehicles, tractors, buses and heavy commercial vehicles. It was originally named Firodia Tempo Ltd. and later after partial acquisition by Bajaj Auto as Bajaj Tempo Ltd. Force Motors manufactures a range of vehicles including Small Commercial Vehicles (SCV), Light Commercial Vehicles (LCV), Multi Utility Vehicles (MUV), Sports Utility Vehicles (SUV), Heavy Commercial Vehicles (HCV) and Agricultural Tractors. They referred the financial analysis to an assessment of the viability, stability and profitability of a business, sub-business or project. By renewing information from the annual report of the company, the financial performance was measured by using various financial tools such as profitability ratio, solvency ratio, comparative statement, etc. The findings have been arrived that the company has got enough funds to meet its debts & liabilities, the income statement of the company shows sales

of the company increased every year at good rate and profit also increased every year.

## CHAPTER 3: RESEARCH METHODOLOGY

### 3.1 Introduction

The approach adopted in this study will be explained in this section. The element involved in conducting this study will be described in this chapter from the samples obtained and sampling techniques used for analysis. Finally, this chapter provides a detailed description of the analytical approach chosen and the process of collecting data.

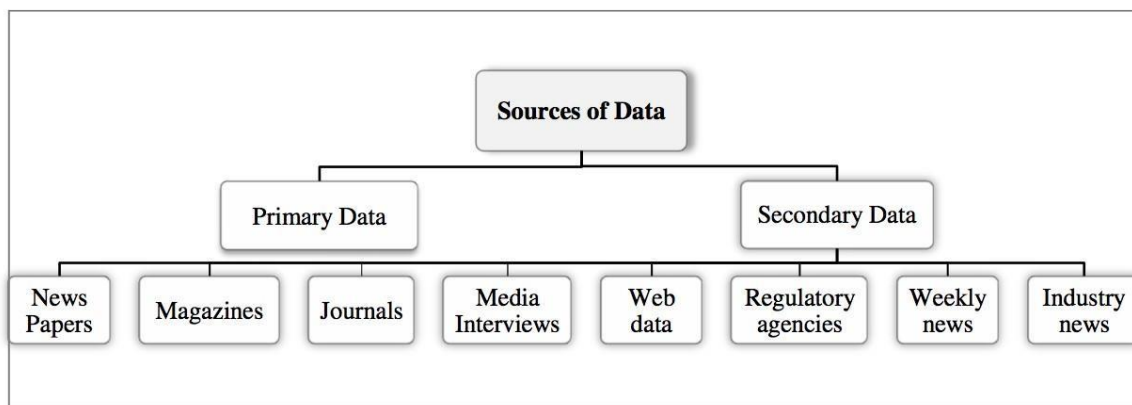
### 3.2 The research type

This study aims at appraising the financial analysis of a specific automobile company. i.e., Volkswagen. This research is design as a quantitative, using secondary data in nature by compiling the financial across five years (2014 to 2018).

### 3.3 Data Collection method

The data will be collected from the secondary sources as such annual report of the Volkswagen from 2014 to 2018. Even though the focus was given to three (3) statements, namely the Profit and Loss Account, the Balance Sheet and The Cash Flow Statement but other related statement such as notes of accounts was also need to be investigated. Other than that, other secondary sources as Text Books, Reference Books, Journals, Articles, Magazines and from the Internet. Figure 3.1 below presented the graphically sources of data suited to this study.

**Figure 3.1 Sources of data**



### 3.4 Data analysis

The data will be summarized using Microsoft Excel before analyzed using SPSS application. The figures from the financial statement will be summarized to calculate the Financial Ratios (such as Current Ratio, Acid Test, Return on Asset, Average Collection Period and Debt to Income ratio) using Excel application. The next step was to analyze data on financial ratio to test any hypotheses in order to achieve the research objectives. This will be done using SPSS version 21.

The pooled model of multivariate regression was used to determine the effect of internal and macroeconomic factors on liquidity risk of Volkswagen. The hypothesis was illustrated in Model 1, 2 and 3.

The pooled of multivariate regression was used to determine the effect of internal and macroeconomic factors on Return on Asset of VW. The hypothesis was illustrated in Model 1,2 and 3.

## CHAPTER 4: DATA ANALYSIS AND FINDING

### INTRODUCTION

Researchers can identify the trend of the company through financial statement analysis by comparing its ratio with different time period or with another company that is in the same industry. In this study, we obtained financial information of a company from its financial statement, namely income statement, balance sheet and cash flow statement.

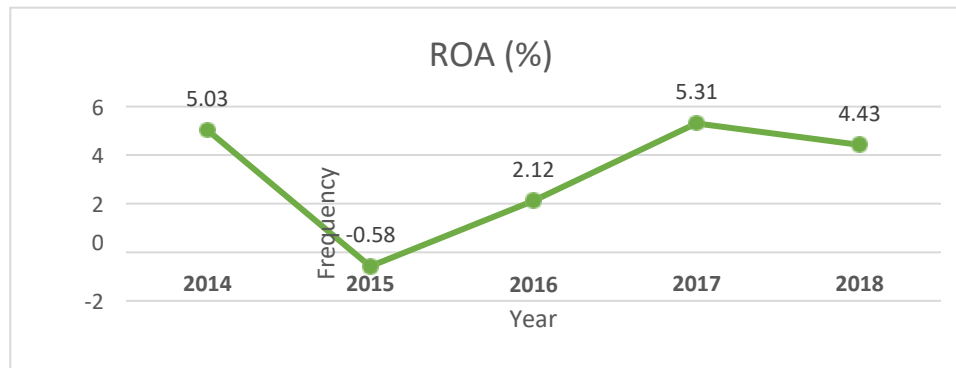
### 4.1 DESCRIPTIVE ANALYSIS

**Table 1: Descriptive statistics of dependent and company specific variables**

Descriptive analysis			
Variables (Constant)	Mean	Standard Deviation	N
ROA	0.034940	0.0205624	5
Current Ratio	1.595380	0.0974347	5
Quick Ration	1.351240	0.0853733	5
Average- Collection Period	30.415380	3.6095017	5
Debt to Income	1.436700	0.2353019	5
Operational Ratio	0.126740	0.1232333	5
Operating Margin GDP	0.038940	0.0206115	5
	1.9500	0.35199	5
Inflation	1.020	0.7259	5
Interest Rate	0.4940	0.40185	5
Exchange Rate	0.85880	0.062902	5
STDV	3.50935271	1.878786242 441189	5
CGI	0.800	0.0000	

The data collected has been run in SPSS System using regression analysis with only 5 samples (from year 2014 to 2018). The mean and standard deviation of dependent and variables ratio are recorded in Table 1. The explanation below will round off the value to 4 decimal places.

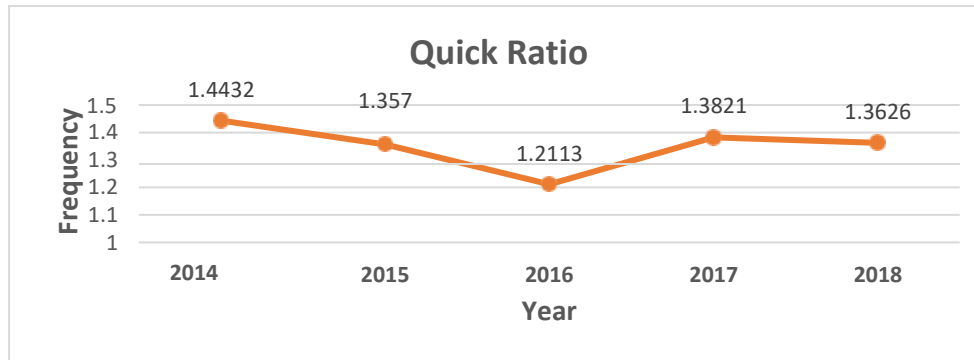
## I. COMPANY PERFORMANCE



**Graph 1: Return on asset ratio of Volkswagen from 2014-2018**

ROA is the return on asset that has been used to measure company performance. A higher ROA tells us that the company have higher profitability. As we can see from the graph above, the ROA of Volkswagen fluctuated and keep rising over the years. The ROA of Volkswagen was decrease consecutively from 2014 (5.03%) to 2015 (-0.58%). It has a little increase in 2016 (2.12%) and 2017(5.31%) but dropped again in 2018 to (4.43). The highest ROA for Volkswagen among 5 years is 2017 (5.31%), while the lowest is 2015 (-0.58%). Based on table 1, the mean ROA for Volkswagen is 0.034940 and standard deviation is 0.0205624. For every 1-dollar asset Volkswagen invest, only 3.5 cent is generated. The dispersion of the profit generated from asset within 5 years only  $\pm 2.1$  cent. The competent of Volkswagen to generate profit from asset is low.

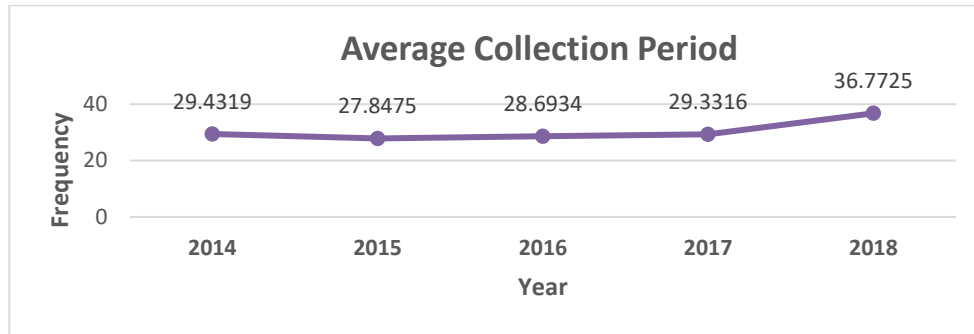
## II. LIQUIDITY RISK



**Graph 2: Quick ratio of Volkswagen from 2014-2018**

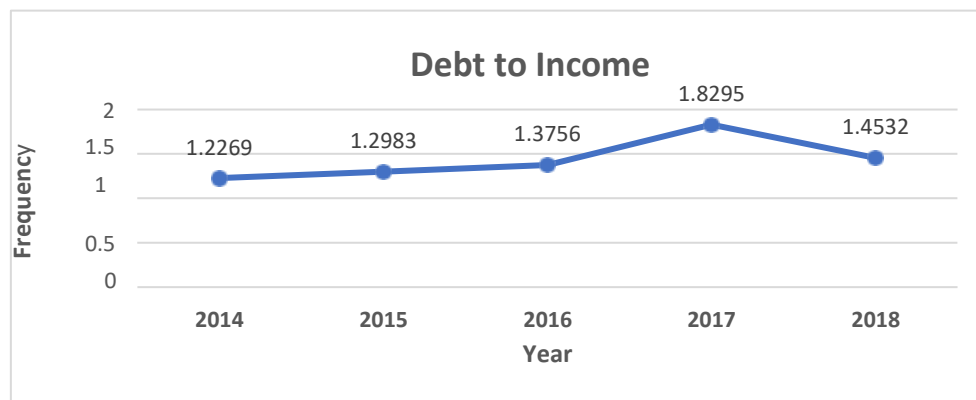
Quick ratio, also known as acid test ratio, shows the proportion of quick assets of a business in a relation to its current liabilities. The higher the quick ratio, the liquidity to meet the short-term liabilities is the business. Volkswagen's quick ratio has fall consecutively 5 years from 2014 to 2016. In 2014, Volkswagen's quick ratio was 1.4432, while in 2016, it dropped to 1.2113. In conclusion, the Volkswagen's liquidity is weaker from year to another year. Based on Figure above, the mean quick ratio of Volkswagen in 5 years is 1.3512 and standard deviation of quick ratio is 0.0853733.

### III. CREDIT RISK



**Graph 3: Average-collection period of Volkswagen from 2014-2018**

The average collection period is the approximate amount of time that it takes for a business to receive payments owed in terms of account receivable. The graph shows that Volkswagen's average collection period is in constant but raising trend. In 2014, it takes 29.4319 days to collect back the account receivable, while in 2015, it drops to 27.8475 days. The performance increase in 2016, when it takes 1 day less more than 2015, however its performance in collecting receivables increased in 2017 (29.3316). In 2018, Volkswagen's took 36.7725 days, the longest time in 5 years, to collect back receivables. The longer the time it takes to collect back receivables, the larger the effect on company's cash flow. The 5 years average of Volkswagen's average collection period is 3.6095017 days and standard deviation is 30.415380 days. This indicates that the average days in 5 years for Volkswagen to collect back its receivables is 3.6095017 days and this number may be varied to a range of  $\pm 30.415380$  days. The company ability to collect back receivables is consider not good.

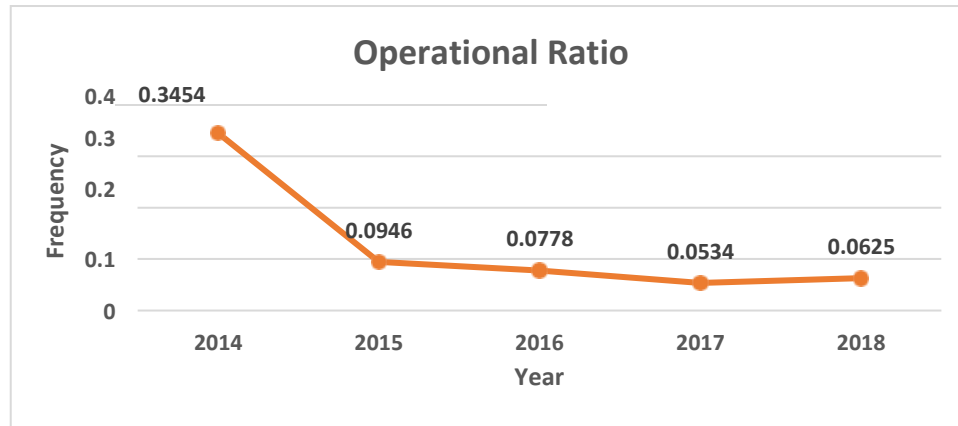


**Graph 4: Debt to income ratio of Volkswagen from 2014-2018**

Debt to income ratio is a ratio that indicates the company's sustainability to the debt load. A business ability to pay back debt depends on its cost and income structure. The debt to income ratio provides a simple measure of the total liabilities of a business compared to its income. In general, larger business operations and those with stable cashflow can sustain higher debt ratios provided they have efficient costs structures. The debt to income ratio of Volkswagen has increase from 1.2269 cent/ 1dollar income in 2014 to 1.8295 cent/ 1dollar income in 2017. The burden of Volkswagen to cover the debt using company's income has increase among the years. Volkswagen performance in using income to cover debt has a slightly improve in 2016, however, the burden has become heavier for the following years

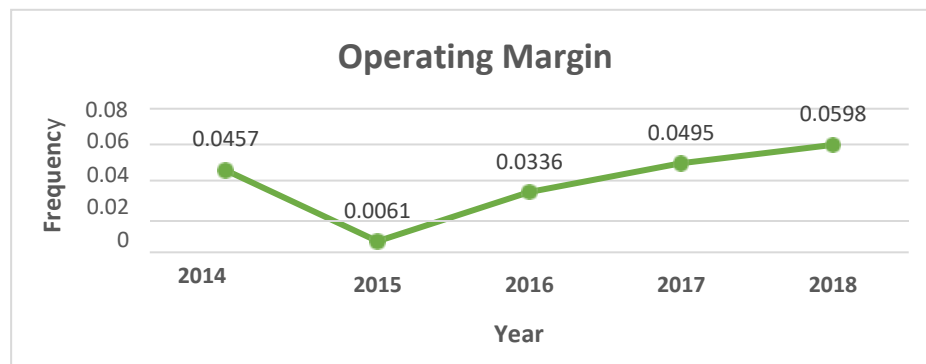
and it reduces in 2018 (1.4532). The average debt to income ratio for Volkswagen is 1.436700 and standard deviation is 0.2353019. This shown that for every 1dollar debt, Volkswagen can produce 1.44 cent of profit. Also, their ability in using liability to produce profit is quite stable with only  $\pm 0.24$ cent dispersion.

#### IV. OPERATIONAL RISK



**Graph 5: Operational ratio of Volkswagen from 2014-2018**

The operational ratio indicates a company's efficiency in management. The higher the ratio, the weaker the organization's capability to produce income. From the graph above, in 2014, Volkswagen had the lowest operational ratio because it was efficient managed its operating expenses. The higher the ratio, the smaller the company's ability to generate profit. The average operational ratio for Volkswagen is 0.126740 and the standard deviation is 0.1232333. This tells us that the company efficiency in management. Volkswagen spent 12.67cent to generate every 1 dollar sales and this amount considered quite stable for Volkswagen, as its standard deviation is very low.

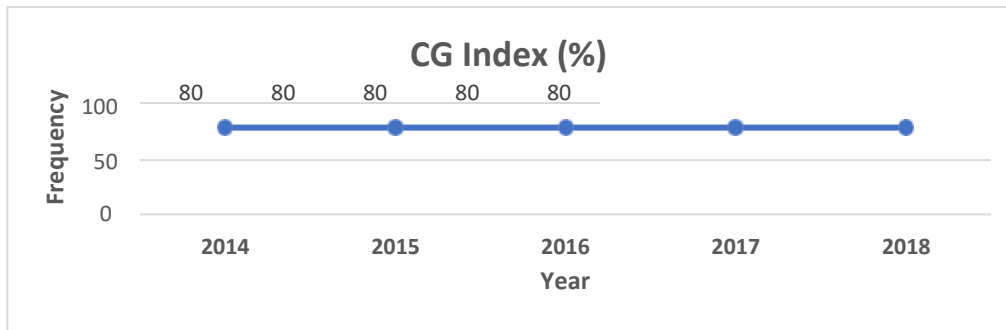


**Graph 6: Operating margin of Volkswagen from 2014-2018**

Operating margin shows us that the profit a company can makes on a dollar of sales after deducting production's variable costs, such as employee salary and raw materials cost, before paying interest or tax. It can be calculated by dividing a company's operating profit by its net sales. The graph shown a fluctuating trend. Volkswagen's lowest operating margin was on 2015, 0.61%, while the highest was 2018 (5.98%). Average operating margin for Volkswagen is 3.89% and standard deviation is 0.0206115. This means that the company average operating profit is 3.89% of total revenue. This percentage is quite stable when the operating margin's standard deviation is closed to zero.

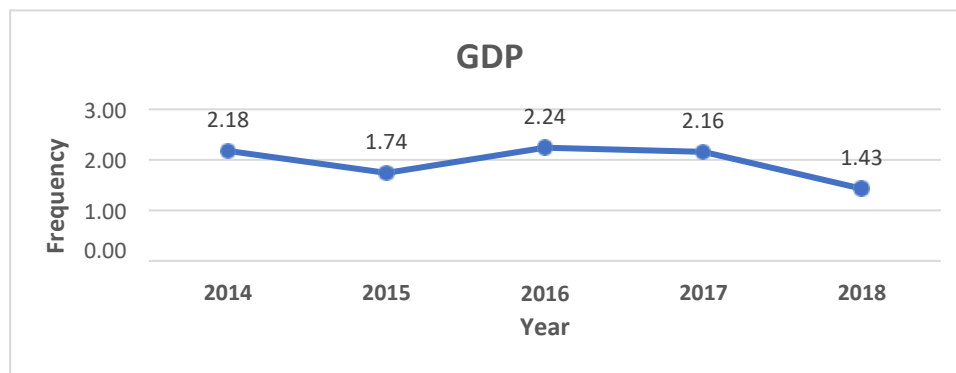


## V. CORPORATE GOVERNANCE INDEX



**Graph 7: CG Index of Volkswagen from 2014-2018**

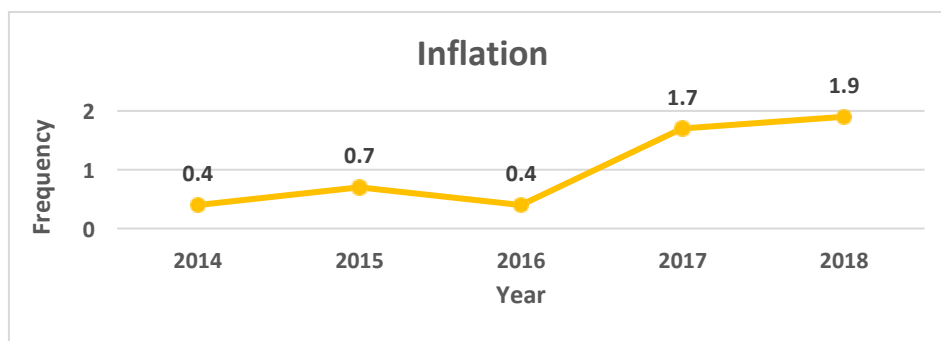
Corporate Governance index (CGI) is calculated based on 5 principles, namely accountability, transparency, independence, fairness and sustainability. The criteria that represent each principle are meeting, present of audit committee, more than 50% of non-executive committee, female executive on board and the involvement in social responsibility respectively. Each criterion counted as 1 score and Volkswagen has achieved 4 criteria from 2014 to 2018, hence Volkswagen gets 4 out of 5 (80%) from corporate governance index consecutively. The average of CGI of Volkswagen is 4 and zero dispersion of the score since they manage to fulfil the CGI tested in this study. Hence, Corporate Governance Index (CGI) has no correlation or relationship to the dependent variable.



**Graph 8: Growth Domestic Products (GDP Annual %) of Germany from 2014-2018**

GDP measures the value of economic activity within a country. The variable used in this study is the annual growth in percentage of GDP in Germany. The graph shows that the German's GDP growth is not stable from one year to another year. From 2.18% in 2014 to 1.43% in 2018. From table 1, we can observe that its Growth Domestic Product (GDP) mean is 1.95% and the dispersion of this graph is 35.20%.

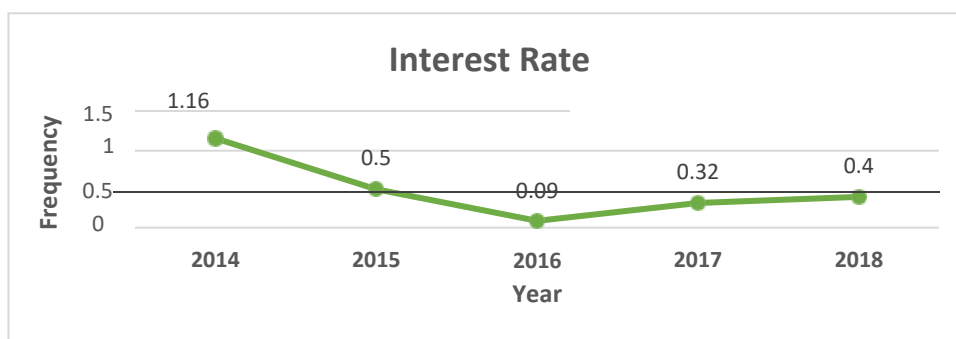
## VII. INFLATION RATE



**Graph 9: Inflation rate of Germany from 2014-2018**

Inflation rate is the changing in purchasing value of money of a country. The inflation rate of German is rising from 2014 to 2018. The highest inflation rate is 1.98% in 2018, while the lowest is 0.4% in 2016. Table 1 shows that the inflation rate mean is 72.59%.

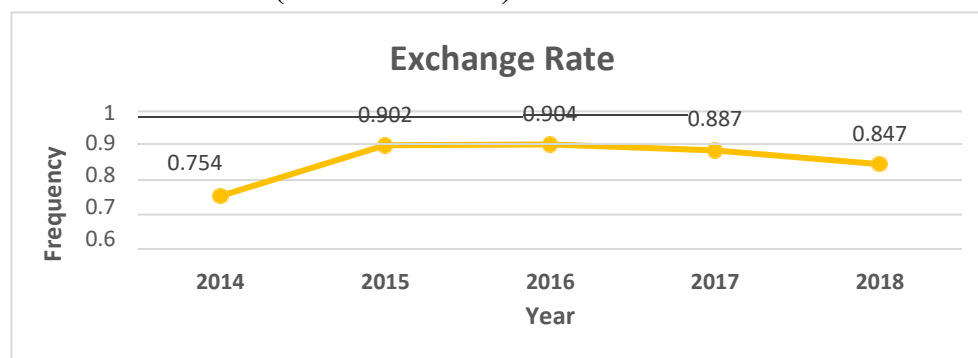
## VIII. INTEREST RATE



**Graph 10: Interest rate of German from 2014-2018**

Interest rate of German has dropped drastically from 1.16% in 2014 to 0.09% in 2016 and bounced back to 0.32% in 2018. The interest rate mean is 0.4940% from table 1.

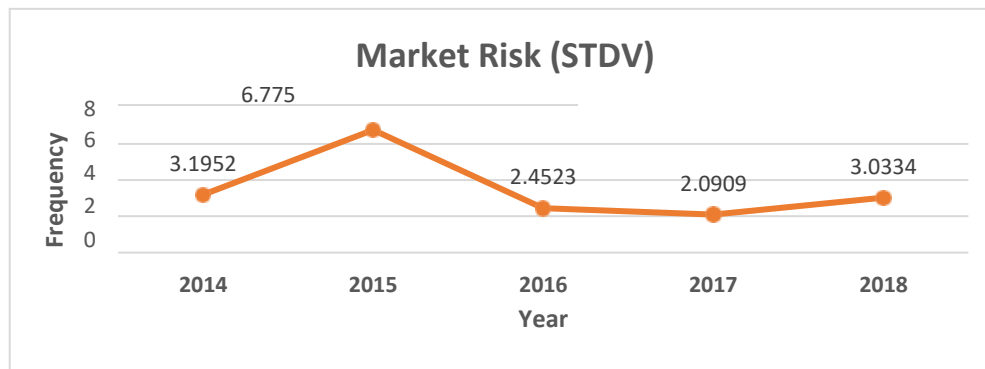
## IX. EXCHANGE RATE (1USD TO DEM)



**Graph 10: 1USD to DEM Exchange rate from 2014-2018**

The above line graph shows the exchange rate of USD to DEM. The value of DEM increase from 2014 (1USD to 0.754DEM) to 2015 (1USD to 0.902DEM). The value of DEM got a bit upward in 2017, but fall immediately in 2018. The average of 1USD exchange to DEM is 0.062902 from table 1.

## X. MARKET RISK (STDV)



**Graph 11: Market risk of Volkswagen from 2014-2018**

The market risk of Volkswagen in 2014 is 31.95%. The highest market risk for Volkswagen is 67.75% in 2015. While the market got better the following years and finally dropped to 20.90% and strikes back to 30.33%. The average market risk for Volkswagen is 18.79%.

## **4.2 SPSS ANALYSIS**

The SPSS analysis of liquidity risk on company specific variables will be discussed in four perspective, namely correlation, model summary, anova and coefficient.

### **I. Correlation**

The correlation of liquidity risk to both internal and external factors of Volkswagen is shown in Table 10. The ROA, operating margin, GDP, interest rate and market risk of Lenovo are positively correlated to liquidity risk, while average-collection period, debt to income, operational ratio, inflation and exchange rate of Volkswagen are negatively correlated to liquidity risk. CGI has no correlated to liquidity risk. From the table, we can see that inflation is the least significance to liquidity risk while GDP is the most significance to liquidity risk in Volkswagen's external factors.

Table 2: Correlation of dependent variable and company internal and external factors of Volkswagen

Variables (Constant)		QR	ROA	ACP	DTI	OR	OM	GDP	INF	I	EX RATE	STDV	CGI
Pearson Correlation	ROA	0.546	1.000	0.415	0.462	0.299	0.897	0.159	0.484	0.350	-0.597	-0.749	
	QR	1.000	0.546	0.142	0.010	0.565	0.248	-0.167	0.238	0.812	-0.697	0.138	
	ACP	0.142	0.415	1.000	0.102	-0.212	0.699	-0.732	0.702	-0.066	-0.211	-0.286	
	DTI	0.010	0.462	0.102	1.000	-0.589	0.410	0.112	0.723	-0.491	0.408	-0.501	
	OR	0.565	0.299	-0.212	-0.589	1.000	0.067	0.351	-0.563	0.929	-0.897	0.014	
	OM	0.248	0.897	0.699	0.410	0.067	1.000	-0.060	0.588	0.080	-0.447	-0.830	
	GDP	-0.167	0.159	-0.732	0.112	0.351	-0.060	1.000	-0.0558	0.083	-0.090	-0.421	
	INF	0.238	0.484	0.702	0.723	-0.563	0.588	-0.558	1.000	-0.313	0.175	-0.289	
	I	0.812	0.350	-0.066	-0.491	0.929	0.080	0.083	-0.313	1.000	-0.906	0.175	
	AOP	-0.697	-0.597	-0.211	0.408	-0.897	-0.447	-0.090	0.175	-0.906	1.000	0.194	
	STDV	0.138	-0.749	-0.286	-0.501	0.014	-0.830	-0.421	-0.289	0.175	0.194	1.000	
	CGI												1.000
Sig. (1-tailed)	ROA	.	0.171	0.244	0.217	0.312	0.019	0.399	0.204	0.282	0.144	0.073	0.000
	QR	0.171	.	0.410	0.494	0.160	0.344	0.394	0.350	0.048	0.095	0.412	0.000
	ACP	0.244	0.410	.	0.435	0.366	0.094	0.080	0.093	0.458	0.367	0.321	0.000
	DTI	0.217	0.494	0.435	.	0.148	0.247	0.429	0.084	0.200	0.248	0.195	0.000
	OR	0.312	0.160	0.366	0.148	.	0.457	0.281	0.162	0.011	0.019	0.491	0.000
	OM	0.019	0.344	0.094	0.247	0.457	.	0.462	0.149	0.449	0.225	0.041	0.000
	GDP	0.399	0.394	0.080	0.429	0.281	0.462	.	0.164	0.447	0.443	0.240	0.000
	INF	0.204	0.350	0.093	0.084	0.162	0.149	0.164	.	0.304	0.389	0.318	0.000
	I	0.282	0.048	0.458	0.200	0.011	0.449	0.447	0.304	.	0.017	0.389	0.000
	AOP	0.144	0.095	0.367	0.248	0.019	0.225	0.443	0.389	0.017	.	0.377	0.000
	STDV	0.073	0.412	0.321	0.195	0.491	0.041	0.240	0.318	0.389	0.377	.	0.000
	CGI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	QR	5	5	5	5	5	5	5	5	5	5	5	5
N	ROA	5	5	5	5	5	5	5	5	5	5	5	5
	ACP	5	5	5	5	5	5	5	5	5	5	5	5
	DTI	5	5	5	5	5	5	5	5	5	5	5	5
	OR	5	5	5	5	5	5	5	5	5	5	5	5
	OM	5	5	5	5	5	5	5	5	5	5	5	5
	GDP	5	5	5	5	5	5	5	5	5	5	5	5
	INF	5	5	5	5	5	5	5	5	5	5	5	5
	I	5	5	5	5	5	5	5	5	5	5	5	5
	AOP	5	5	5	5	5	5	5	5	5	5	5	5
	STDV	5	5	5	5	5	5	5	5	5	5	5	5
	CGI	5	5	5	5	5	5	5	5	5	5	5	5

The correlation of liquidity risk to both internal and external factors of Volkswagen is shown in Table 10. The ROA, operating margin, GDP, interest rate and market risk of Lenovo are positively correlated to liquidity risk, while average-collection period, debt to income, operational ratio, inflation and exchange rate of Volkswagen are negatively correlated to liquidity risk. CGI has no correlated to liquidity risk. From the table, we can see that inflation is the least significance to liquidity risk while GDP is the most significance to liquidity risk in Volkswagen's external factor

## II. Model 1: Return on Assets on Internal Factors

**Table 3: Model summary of Volkswagen Return on Assets (ROA) on internal factors**

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate	Durbin-Watson
1	1.000 <sup>a</sup>	1.000	.	.	.622

- a. Predictors: (Constant), STDV, OPERATIONAL RATIO, AVERAGE COLLECTION PERIOD, CURRENT RATIO
- b. Dependent Variable: ROA

From table 3, model summary of dependent and internal factors, this tell us that 100.0% of the variance in the dependent variable is explained by the STDV., Operation ratio, Average Collection Period and Current Ratio. This result is consistent with the pass study by Omar Durrah et al (2016) the quick ratio will be positively related to return on asset and internal factors.

**Table 4: Anova of Volkswagen ROA on internal factors**

Model	Sum of Squares	df	Mean Square	F	Sig.
<b>Regression</b>	.002	4	.000	.	.b
<b>Residual</b>	.000	0	.		
<b>Total</b>	.002	4			

- a. Dependent Variable: ROA
- b. Predictor (Constant), STDV, OPERATIONAL RATIO, AVERAGE COLLECTION PERIOD, CURRENT RATIO

From table 4, we can learn that STDV., Operation ratio, Average Collection Period and Current Ratio has a great effect to the dependent variables. This result is consistent to the pass study by Omar Durrah et al, (2016) that the ROA will be affected by internal factors (which consisted of STDV, Operational ratio, average collection period and current ratio).

**Table 5: Coefficients of Volkswagen Return on Assets on Internal factors**

Model	Unstandardized Coefficients			Unstandar dized Coefficient s	95.0% Confidence Interval for B			Collinearity Statistics		
1		B	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
	(Constant)	-0.1570	0.000				-.157	-.157		
	Current Ratio	0.141	0.000	0.670			.141	.141	.585	1.708
	Average- Collection Period	-7.636E- 5	0.000	-0.013			.000	.000	.656	1.525
	Operation Ratio	0.000	0.000	-0.001			.000	.000	.632	1.581
	STDV	0.009	0.000	- 0.812			-.009	-.009	.854	1.171

a. Dependent Variable: Quick Ratio

Lastly, from coefficient table (table 5), we found that all selected internal factors as the very significance effect to Return on Asset (ROA) with P-value <0.05. This indicates that the company ROA is increase when the all internal factors increased. This result is consistent with the study of Impact of Liquidity on Return on Assets of Firms: Evidence From Nigeria, by Manyo and (2013). Besides, ROA influence quick ratio positively while operating margin influence quick ratio negatively.

## II. Model 2: Return on Assets on External Factors

**Table 6: Model summary of Volkswagen Return on Assets (ROA) on external factors**

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.968 <sup>a</sup>	.936	.745	.0103798	2.944

a. Predictors: (Constant), STDV, Exchange Rate, Inflation

b. Dependent Variable: ROA

From table 6, model summary of dependent and external factors, this tell us that 74.5% of the variance in the dependent variable is explained by external factors (which consisted of STDV, Exchange rate and Inflation. This result is consistent with the pass study by Shuaib (2014) that the external factors will be positively related to return on asset.

**Table 7: Anova of Volkswagen ROA on external factors**

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.002	3	.001	4.899	.318 <sup>b</sup>
	Residual	.000	1	.000		
	Total	.002	4			

a. Dependent Variable: ROA

b. Predictors: (Constant), STDV, Exchange Rate, Inflation

From table 7, we can learn that the predictors (external factors) bring a significant effect to the dependent variable (ROA). This result is consistent to the pass studies by Omar Durrah et al. (2013) and Shuaib (2014)

### III. Model 3: Return on Assets on all factors

**Table 9: Model summary of Volkswagen Return on Assets (ROA) on all factors**

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.897 <sup>a</sup>	.805	.740	.0104808	2.439

a. Predictors: Operating Margin

b. Dependent Variable: ROA

From table 9, model summary of dependent and all factors, this tell us that 74.0% of the variance in the dependent variable is explained by the combination of internal and external factors. This result is consistent with the pass study by Omar Durrah et al. (2013) and Shuaib (2014) that both internal and external factors will be positively related to return on asset.

**Table 10: Anova of Volkswagen ROA on all factors**

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.001	1	.001	12.396	.0.39 <sup>b</sup>
	Residual	.000	3	.000		
	Total	.002	4			

a. Dependent Variable: ROA

b. Predictors: Operating Margin

From table 10, we can learn that the operation margin has a great effect to the dependent variables. This result is consistent to the pass study by (Jaber & Al-khawaldeh, 2014) Jaber (2014) who study on the Impact of Internal and External Factors on Commercial Bank Profitability in Jordan.



**Table 11: Coefficients of Volkswagen Return on Assets on all factors**

Model	Unstandardized Coefficients			Unstandardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
1		B	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
	(Constant)	8.229E-5	.011		.008	.994	-.035	.035		
	Operation Margin	.895	.254	.897	3.521	.039	.086	1.704	1.000	1.000

a. Dependent Variable: Quick Ratio

Lastly, from coefficient table (table 11), we found that the operation margin has a significance effect to Return on Asset (ROA) with P-value  $<0.05$  ( $p=0.039$ ). This indicates that the company ROA is increase when the Operation margin increased. This result is consistent with the study of Impact of Internal and External Factors on Commercial Bank Profitability in Jordan by Jaber (2014).

## **CHAPTER 5: DISCUSSION AND CONCLUSION**

### **Introduction**

This purpose of this study is to determine the internal and external factor that effect the Return On Asset of Volkswagen company. To complete the objective, internal factors (Operation ratio, Average Collection Period and Current Ratio) and external factors (STDV, Exchange rate and Inflation) were used in this study. Thus, we will discuss the findings in this chapter. Recommendation and conclusion for future research are included in this chapter.

### **5.1 Limitations**

This study is limited only to the automobile company. This study also limited to the data used, as it only includes five years performance and financial statements of Volkswagen.

### **5.2 Conclusion**

In conclusion, Volkswagen has a deteriorating liquidity performance amongst 5 years. Its ROA is affected mainly by selected internal factors and Operation Margin (external factor). The higher the Internal factors and Operation margin across the industry, the better of this company ROA. As company ROA is determined by internal and external factors, for Volkswagen the internal factors has greater influence on the company than external factors. However, it would be difficult for company to control its external environment. Hence, it would be more realistically for Volkswagen to enhance its internal performance. If the company failed to increase its ROA, the performance and ability of company to encounter short term liability will become worsen. Hence, Volkswagen must fully utilize every single dollar of asset that they acquired. In the meantime, Volkswagen need to aware the economic condition and take risk effectively.

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